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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,594	04/23/2001	Chan Lon Park	401182	1498

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EXAMINER

NGUYEN, KIHEM D

ART UNIT PAPER NUMBER

2823

DATE MAILED: 10/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/839,594

Applicant(s)

PARK ET AL.

Examiner

Khiem D Nguyen

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-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8, 9, 11, 13-15 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, 9, 11, 13-15 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

Response to Arguments

Applicant's arguments with respect to claims 1-6, 8, 9, 11, 13-15, and 17-20 have been considered but are moot in view of the new ground(s) of rejection.

New Grounds of Rejection

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 6, 11, 13, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Ritter et al. (U.S. Patent 5, 316, 699).

In re claims 1, 13, and 18, Ritter discloses a composite comprising: a layer of a dielectric material having a thickness, as a matrix of the composite; and superparamagnetic nano-particles having a maximum dimension in a range from 50 Angstroms (5 nm) (col. 3, lines 56-59) to 200 Angstroms (20 nm) (col. 4, lines 29-31) and dispersed throughout the matrix (Abstract), wherein the thickness of the dielectric material is at least one thousand times the maximum dimension of the superparamagnetic nano-particles (col. 4, lines 29-41 and FIGS. 1-14).

In re claim 5, Ritter discloses wherein the matrix is selected from the group consisting of silica (Abstract).

In re claim 6, Ritter discloses wherein the matrix is selected from the group consisting of polyimide, polymethyl methacrylate, and methyl silsesquioxane (Abstract).

In re claim 11, Ritter discloses wherein the superparamagnetic nano particles are selected from the group consisting of γ -Fe₂O₃, chromium oxide, europium oxide, NiZn-ferrite, MnZn-ferrite, and yttrium-iron garnet (col. 4, lines 29-64).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4, 8-9, 14-15, 17, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al. (U.S. Patent 5,316,699) as applied to claims 1, 5, 6, 11, 13, and 18 above, and further in view of Ohtaki (U.S. Patent 6,063,303) and Hemmi et al. (U.S. Patent 5,886,173).

In re claims 2-4, 14-15, and 19-20, Ohtaki discloses the composite including spherical nano magnetic particles in addition to the non-spherical nano magnetic particles (col. 2, line 66 to col. 3, line 6). It would have been obvious to one of ordinary skill in the art of making semiconductor devices to combine the teaching of Ritter and Ohtaki to enable the nano particles of Ritter to be formed and furthermore to improve the electromagnetic characteristics (col. 3, lines 3-6).

In re claims 8-9, and 17, Hemmi discloses wherein the composite including diamagnetic nano-particles in addition to the superparamagnetic nano-particles and wherein the diamagnetic nano-particles include indium (col. 6, lines 35-47). It would have been obvious to one of ordinary skill in the art of making semiconductor devices to combine the teaching of Ritter, Ohtaki, and Hemmi to enable the nano particles of Ritter to be formed and furthermore the composite being particularly useful for complexes used as magnetic resonance imaging (MRI) contrast agents (col. 6, lines 36-37).

Response to Amendment

Response to Arguments

Applicant's arguments with respect to claims 1-6, 8, 9, 11, 13-15, and 17-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

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advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D Nguyen whose telephone number is (703) 306-0210. The examiner can normally be reached on Monday-Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (703) 306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-9179 for regular communications and (703) 746-9179 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

K.N.
September 26, 2003



Olik Chaudhuri
Supervisor